

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Group Art Unit: 3616

Shabana, et al.

Examiner: David R. Dunn

Serial No.: 10/626,509

Confirmation No.: 1969

Filed: 07/24/2003

For: RECONFIGURABLE BY-WIRE FOOT PEDALS

Attorney Docket No.: GP-302542 / GM0285PUS

AMENDMENT UNDER 37 C.F.R. § 1.116

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action mailed September 13, 2006, please consider the arguments presented in the Remarks section herein. This document is intended to be responsive to the Office Action mailed September 13, 2006.

The undersigned attorney is acting in a representative capacity in this application under 37 C.F.R. § 1.34(a). If further proof of authority to act in a representative capacity is required in this application, please notify the undersigned via the correspondence address associated with this application.

A listing of the claims begins on page 2. Remarks begin on page 7.

Listing of Claims

1. (previously presented) An adjustable pedal assembly in combination with a vehicle having a driver's seat having selectable multiple driving positions and a vehicle floorboard, said pedal assembly including:

a track arrangement in said vehicle floorboard extending longitudinally and transversely with respect to said vehicle, and

one or more foot pedals movably mounted in said track arrangement for positioning said pedal or pedals with respect to said vehicle longitudinally and transversely along said track in accordance with the driving position selected; wherein said track arrangement includes a longitudinal track portion and a transverse track portion, and said one or more foot pedals includes a base movable forwardly and backwardly in the longitudinal track portion, and a post connected to the base and movable upwardly and downwardly with respect to the base, and a beam pivotally supported with respect to said base or said post; and wherein said beam is elongated transversely and splittable longitudinally.

2. (cancelled)

3. (cancelled)

4. (original) The adjustable pedal assembly of claim 1 further comprising at least three wheels on the vehicle, and an energy conversion system operable for motivating at least one of said wheels to move the vehicle, and wherein at least one of the one or more foot pedals is actuable by-wire to selectively operate said energy conversion system.

5. (withdrawn) The method of selling an originally manufactured vehicle to an end user consumer comprising:

selling a chassis having at least three wheels, an energy conversion system operable for motivating at least one of said wheels to move the vehicle, a braking system operable for braking at least one of said wheels to stop the movement of said vehicle;

selling a body matable with said chassis and having a configuration selectable by said consumer from an inventory of bodies of different configurations;

selling a seat matable with one of said chassis or said body and including features selectable by said consumer from an inventory of different features; and

said selling of said chassis, body and seat being independent of each other.

6. (withdrawn) The method of selling an originally manufactured vehicle having a body and chassis to an end user consumer comprising selling a seat for the vehicle to the consumer completely independently of the body and chassis.

7. (previously presented) A by-wire foot pedal arrangement in combination with a moveable vehicle having a floorboard, at least three wheels, an energy conversion system operable for motivating at least one of said wheels to move the vehicle, and a braking system operable for braking at least one of said wheels to stop the movement of the vehicle, said arrangement comprising:

a guide mountable in said floorboard to establish a plurality of driving positions for operating said systems;

at least one foot pedal being variably positionable in said floorboard at one of the plurality of driving positions established by said guide;

said foot pedal being actuatable to selectively operate one of said energy conversion system or said braking system; and

a wire extending between said foot pedal and said energy conversion system or said braking system to electrically communicate the actuation of said foot pedal to the energy conversion system or the braking system for selectively operating one of said systems.

8. (previously presented) The by-wire foot pedal arrangement of claim 7 wherein the guide is a track in said floorboard, and the at least one foot pedal is positionable along the track.

9. (previously presented) The by-wire foot pedal arrangement of claim 7 wherein the guide includes a plurality of interface connector points at different locations in said vehicle at which the foot pedal is positionable.

10. (previously presented) The by-wire foot pedal arrangement of claim 9 further comprising a seat, and wherein the foot pedal is positionable with respect to said seat.

11. (previously presented) The by-wire foot pedal arrangement of claim 9 further comprising a console, and wherein the foot pedal is positionable with respect to said console.

12. (original) The by-wire foot pedal arrangement of claim 7 wherein said at least one foot pedal is moveable laterally within the vehicle.

13. (withdrawn) A unitary vehicle seat and function control unit for a vehicle comprising:

a vehicle seat; and

an interface panel on the control unit being reconfigurable for a plurality of functions selected from the group consisting of driving, computer, working, entertaining, and child care.

14. (withdrawn) The unitary vehicle seat and function control unit of claim 13 wherein the unitary unit is selectively positionable at one of a plurality of positions within the vehicle.

15. (original) A foot pedal for use with a seat of a vehicle and comprising:

a base moveable forwardly and backwardly;

a post connected to the base and moveable upwardly and downwardly with respect to the base;

a beam pivotally supported with respect to the base and/or the post;

a first actuator connected to the base for moving the base;

a second actuator connected to the post and/or beam for pivoting the beam; and

a third actuator connected to the beam for expanding the surface area of the beam.

16. (original) The foot pedal of claim 15 wherein the base is further movable from side to side.

17. (original) The foot pedal of claim 16 wherein the base is moveable on a track in the vehicle.

18. (original) The foot pedal of claim 15 wherein the pivoting of the beam is part of an energy conversion system or braking system for the vehicle.

19. (withdrawn) The method of selling an originally manufactured vehicle to an end user consumer comprising:

selling a chassis having at least three wheels, an energy conversion system operable for motivating at least one of said wheels to move the vehicle, a braking system operable for braking at least one of said wheels to stop the movement of said vehicle;

selling a body matable with said chassis and having a configuration selectable by said consumer from an inventory of bodies of different configurations;

selling a seat matable with one of said chassis or said body and including features selectable by said consumer from an inventory of different features;

said selling of said chassis, body and seat being independent of each other; and

installing a reconfigurable by-wire foot pedal system on said chassis or said body selected by said consumer to accommodate said body and said seat selected by said consumer for operating said systems.

20. (previously presented) A by-wire foot pedal system wherein at least one foot pedal is adjustably mounted in a vehicle floorboard, the foot pedal being movable along a track in said floorboard and expandable to increase the surface area of said foot pedal.

21. (previously presented) A by-wire foot pedal system for a vehicle having a plurality of different driving locations, wherein at least one foot pedal is removably mounted in a vehicle floorboard for reconfiguration of the driving location, wherein the vehicle includes a plurality of driver interface points defining the different driving locations and at which the foot pedal is connectable.

Remarks

Claims 1, 4, 7-12, 15-18, 20 and 21 are in this application.

Claims 1, 4, 15-18 and 21 have been allowed.

No claims have been amended.

No claims have been canceled.

No new claims have been added.

Claim Rejections – 35 U.S.C. § 103

Claims 7, 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bortolon (US 6,364,047) in view of Smythe (US 6,431,304).

The applicant wishes to note that a proper rejection under 35 U.S.C. §103(a) requires that the Examiner establish *prima facie* obviousness. As recited in the MPEP, “[t]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.” MPEP § 2142. Three basic criteria must be met to establish *prima facie* obviousness. MPEP § 2131. first, there must be some suggestions or motivation to modify a reference or combine teachings. *Id.* Second, there must be reasonable expectation of success. *Id.* Third, the prior art reference or references must teach or suggest all the claimed limitations. *Id.*

The Examiner notes in his Response to Arguments that the pedal system of Bortolon is “variable positionable in said floorboard” as shown in Figure 3; note the floorboard 32 which has a lowered area at bend 34 which the Examiner considers as “in” the floorboard. Specifically the Examiner states:

Bortolon discloses an adjustable pedal assembly including a track arrangement (20, 22; see Figures 2 & 4) in the vehicle floorboard (32; see Figure 3), one or more foot

pedals (12, 14) movably mounted in the track arrangement for positioning the pedals with respect to the vehicle longitudinally (see column 2, lines 6-18). Bortolon shows a base (20, 22) which is movable in the track portion, a post connected to the base and movable upward and downward (in a slanted direction, i.e., the post connected to the pedal, see Figure 3), and a beam (14) pivotally supported with respect to the base.

Bortolon fails to show the seat having multiple driving locations or the pedals being positionable transversely.

Applicant respectfully traverses the rejection of claims 7, 8 and 12 under 35 U.S.C. 103(a) as being unpatentable over Bortolon (US 6,364,047) in view of Smythe (US 6,431,304). Applicants believe the Examiner's consideration of Bortolon's Figure 3 bend down area at 34 as "in" said floorboard 32 is impermissible hindsight based on applicant's teachings.

Bortolon (US 6,364,047)

Bortolon disclosed "a plurality of pedal mechanisms" (Bortolon Claim 1) with pedals moveably mounted on a carrier platform, each carrier platform mounted on a plurality of parallel tracks. (Bortolon Claim 1, figures 2 and 4, specification column 2 lines 15-27). Bortolon does not teach or disclose a 'by-wire' foot pedal system. Bortolon does not teach or disclose a foot pedal having a wire extending between the foot pedal and the energy conversion system or braking system as recited in the applicant's claim 7.

Smythe (US 6,431,304)

Smythe discloses a three axis adjustable track system mounted above (not in) the vehicle floor. The track system adjusts pedals for comfort of driver. Smythe does not teach or disclose a 'by-wire' foot pedal system. Smythe does not teach or disclose a foot pedal having a wire extending between the foot pedal and the energy conversion system or braking system as recited in the applicant's claim 7. Smythe's tracks are suspended above, not in the floor board.

Claims 7, 8 and 12 are being submitted for reconsideration without amendment as these claims are believed to be allowable in their present form. Bortolon alone as well as Bortolon in view of Smythe do not teach a by-wire foot pedal arrangement having a wire extending between

the foot pedal and the energy conversion system or braking system as claimed in the applicant's claim 7. Additionally and as argued in a previous response, neither the pedal assembly 12, 14 of Bortolon, nor the pedal mounting system base 15 of Smythe is "in" a vehicle floorboard. Bortolon's pedals 12, 14 are "on" a carrier plate 18 which "overlies" his floorboard 32 to limit access to the recess 36 in his floorboard (col. 2, lines 55-60); and Smythe's slider and reactor component 25 is mounted "to" his pedal mounting base (col. 5, lines 33-35), rather than "in" his floorboard. Bortolon alone as well as Bortolon in view of Smythe do not anticipate nor disclose the above identified features of the applicant's claim 7. Claim 7 is therefore believed to be allowable. Claims 8 and 12 depend from claim 7 and are therefore also allowable.

Since the prior art references do not teach or suggest all of the claimed limitations of claims 7, 8 and 12, we therefore request reconsideration in light of the discussion above and the withdrawal of the rejection of claims 7, 8 and 12 under 35 U.S.C. 103(a) as being unpatentable over Bortolon (US 6,364,047) in view of Smythe (US 6,431,304).

Claims 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salmon (US 4,683,977) in view of Bortolon.

The Examiner states:

Salmon discloses a by-wire (54) foot pedal system wherein the pedal is removably mounted in a vehicle floor area for reconfiguration of the driving position (by frame 18; the different attachment points are different driving positions), wherein the vehicle includes a plurality of driver interface points (27) at which the foot pedal is connectable (see column 2, lines 15-23). Regarding claim 7, the frame 26 is the guide member.

Salmon does not clearly show the pedal mounting in a vehicle floorboard.

Bortolon, as discussed above, shows an adjustable pedal mounting in a vehicle floorboard.

Bortolon, however, is more clearly like Salmon. Like Salmon, Bortolon's pedal mechanisms 12 and 14 are mounted in a vehicle floor area, not "in said floorboard" as claimed. Thus, the prior art references do not teach or suggest all the claimed limitations of claims 7-11.

For these and the following remarks, applicant respectfully traverses the rejection of claims 7-11 under 35 U.S.C. 103(a) as being unpatentable over Salmon (US 4,683,977) in view of Bortolon.

Salmon (US 4,683,977)

The applicant respectfully wishes to point out that Salmon does not teach or disclose a by-wire foot pedal system. Salmon's accelerator pedal is linked to the vehicle throttle using a conventional sheathed throttle cable. This is a mechanical linkage, not the 'by-wire' foot pedal system as argued by the Examiner. See Salmon column 2, lines 63-66. The "driver interface points (27)" recited by the Examiner is disclosed by Salmon as a chassis member having holes for receiving mounting pins (see Salmon column 2 lines 6-24), not the electrical interface connectors of the applicant's disclosure. Salmon does not teach or disclose a by-wire foot pedal arrangement having a wire extending between said foot pedal and to said energy conversion system or the braking system as claimed in the applicant's claim 7.

Bortolon (US 6,364,047)

Bortolon disclosed "a plurality of pedal mechanisms" (Bortolon Claim 1) with pedals moveably mounted on a carrier platform, each carrier platform mounted on a plurality of parallel tracks. (Bortolon Claim 1, figures 2 and 4, specification column 2 lines 15-27). Bortolon does not teach or disclose a 'by-wire' foot pedal system. Specifically Bortolon does not teach or disclose a foot pedal having "a wire extending between said foot pedal to said energy conversion system or the braking system" as required in the applicant's claim 7.

Claims 7-11 are being submitted for reconsideration without amendment as these claims are believed to be allowable in their present form. Salmon alone as well as Salmon in view of Bortolon do not teach a "by-wire foot pedal arrangement having a wire extending between said foot pedal to said energy conversion system or the braking system" as claimed in the applicant's claim 7. The "driver interface points (27)" of Salmon recited by the Examiner are disclosed in

Salmon as holes in a chassis member, the holes for receiving mounting pins (see Salmon column 2, lines 6-24), not the electrical interface connectors of the applicant's. In the applicant's disclosure the interface connector points for mounting the pedals are labeled as element 91 in the applicant's specification and figures.

Specifically, in the applicant's specification paragraph [0093]:

Under some circumstances, the track arrangement may be cumbersome. Referring to Figures 10-13, a vehicle may contain numerous foot pedal electrical interface connectors 91 as well as steering interface points. These interface connectors could be independent from each other and located on the vehicle floor as shown or vehicle interior. The steering transducer input as well as the braking transducer input and the energy conversion system input can be moved around the vehicle, and are easily reconfigurable. Thus, the foot pedals 185/188 can be reconfigured for left hand and right hand drive, forward and rearward driving, and also to a central position driving.

Additionally and as argued in a previous response, the Examiner acknowledges that Salmon does not clearly show the pedal mounting in a vehicle floorboard and looks to Bortolon to show this limitation. As aforesaid Bortolon's pedals 12, 14 are "on" a carrier plate 18 which "overlies" his floorboard 32 to limit access to the recess 36" in his floorboard, whereas applicants' by-wire foot pedal arrangement is provided as a built-in part of the vehicle by mounting a guide "in" the vehicle's floorboard. As to claims 9-11, Salmon never mentions a "vehicle floorboard" nor different "locations" in said vehicle at which the pedal arrangement is positionable with respect to a seat. (Note the claim differentiation between "position" and "location".) In Salmon, the "driving location" rather than "driving position" does not change and is only "shiftable longitudinally to vary the distances between the pedals and the driver" to accommodate leg length of various sized drivers, see Salmon's ABSTRACT and col. 2, lines 22 and col. 3, line 39-40. Salmon alone as well as Salmon in view of Bortolon do not anticipate nor disclose the above identified features of the applicant's claim 7. Claim 7 is therefore believed to be allowable. Claims 8-11 depend directly or indirectly from independent claim 7 and are therefore also allowable.

Since the prior art references do not teach or suggest all the claimed limitation of claims 7-11, we therefore request reconsideration in light of the discussion above and the withdrawal of the rejection of claims 7-11 under 35 U.S.C. 103(a) as being unpatentable over Salmon in view of Bortolon.

Claim 20 is rejected under 35U.S.C.103(a) as being unpatentable over Bortolon (US 6,364,047) in view of Smythe (US6,431,304) and in further view of Chae (US5,398,570). The Examiner acknowledges that (t)he combination of Bortolon and Smythe fails to show the pedal being expandable.

Chae (US 5,398,570)

Chae discloses a supplemental add-on device having a fixed surface area for attaching to a vehicle foot pedal having an upper piece and a lower piece adapted for bolting onto a vehicle foot pedal to increase the size of the pedal. The size increase is a fixed size increase as the add-on device of Chae is not expandable or adjustable.

Paragraphs 101 and 102 of the applicant's specification recite:

[00101] A third embodiment 286 is shown in Figure 24. Foot rest 286, like foot rest 260, has a base 262 and a support post 228, and an actuator 280 for moving the foot rest longitudinally. However, foot rest 286, like foot rest 222, has an actuator 248 to change the angle of the support post 228 as in Figure 21. Additionally, foot rest 286 has a transversely splittable beam 288 which includes an upper half portion 290 and a lower half portion 292. An actuator 294 in the upper half portion 290 has an arm 296 connected to the lower half portion 292. When the actuator extends the arm 296, the lower half portion of the beam moves away from the upper half portion to expand the surface area of the beam. The top surface 298 can be made continuous with telescoping parts on the two half portions of the beam.

[00102] The adjustable foot rest 222 can be modified in accordance with the description hereinbefore for foot pedals 185/188 so that the pedal is operable to either brake or accelerate.

The fixed size foot pedal add-on device of Chae is not expandable as in the applicant's specification, claim 20 and as illustrated in applicant's figure 24. Bortolon and Smythe have been discussed in detail earlier and as acknowledged by the Examiner, neither Bortolon or Smythe disclose a pedal being expandable. Accordingly, Chae does not disclose said foot pedal system where the foot pedal is "expandable to increase the surface area of said foot pedal" as in applicant's claim 20.

Since the prior art references do not teach or suggest all the claimed limitations of claim 20, we therefore request reconsideration in light of the discussion above and the withdrawal of the rejection of claims 20 under 35 U.S.C. 103(a) as being unpatentable over Bortolon (US 6,364,047) in view of Smythe (US6,431,304) and in further view of Chae (US5,398,570).

Conclusion

As discussed earlier, previously presented claims 7-12 and 20 are believed to be allowable as presented in the remarks above. Applicant's note with appreciation that claims 1, 4, 15-18 and 21 are identified as allowed by the Examiner. The applicant respectfully requests reconsideration and allowance of rejected claims 7-12 and 20. In the event issues remain open, the examiner is invited to call the undersigned to discuss those issues before further action is taken on this application.

Respectfully submitted,

Shabana, et al.

By 

Christopher W. Quinn
Reg. No. 38,274

Date: 10/13/06

QUINN LAW GROUP, PLLC
39555 Orchard Hill Place, Ste. 520
Novi, Michigan 48375
Phone: 248-380-9300
Fax: 248-380-8968

On behalf of:

Kathryn A. Marra
GENERAL MOTORS CORPORATION
Legal Staff Mail Code 482-C23-B21
P.O. Box 300
Detroit, Michigan 48265-3000